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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,472	10/27/2003	Ed Millet	ADTV121404	5605
7590 10/13/2004				
ADVANCED TECHNOGY VIDEO, INC.		EXAMINER		
15110 NE 95TH STREET		AN, SHAWN S		
REDMOND, WA 98502				
		ART UNIT	PAPER NUMBER	
		2613		

DATE MAILED: 10/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/695,472	Applicant(s) MILLET ET AL.	
	Examiner Shawn S An	Art Unit 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 9-13 is/are rejected.
- 7) ☒ Claim(s) 7 and 8 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321© may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1, 10, and 13 are rejected under the judicially created doctrine of double patenting over claims 1 and 2 of U. S. Patent No. 6,707,486 B1 since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows:

Claims 1, 10, and 13 recite substantially all of the limitations, as recited in patented claims 1 and 2. Therefore, the claims 1, 10, and 13 have been rejected in view of double patenting.

Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of the application, which matured into a patent. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Mahoney (4,458,266).

Regarding claim 1, Mahoney discloses a method of detecting motion in a video surveillance system, comprising:

receiving a plurality of video image frames from a video camera that is positioned to image an object (col. 5, lines 6-7); and

comparing a sequence of video image frames to generate a map of difference (Fig. 3) between sequential video image frames and determining if a position of the object is changing, and if so, generating a signal indicative of movement of the object (col. 8, lines 20-32).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mahoney (4,458,266) in view of Seeley et al (6,069,655).

Regarding claims 10 and 13, Mahoney discloses a motion sensing system, comprising:

a video camera (Fig. 5, 20);

a processing unit (Fig. 5, 21) coupled to the video camera for executing the steps comprising:

receiving a plurality of video image frames from a video camera that is positioned to image an object (col. 5, lines 6-7);

comparing a sequence of video image frames to generate a map of difference (Fig. 3) between sequential video image frames and determining if a position of the object is changing, and if so, generating a signal indicative of movement of the object (col. 8, lines 20-32).

Mahoney does not particularly disclose a processing unit executing the program instructions.

However, Seeley et al teaches an advanced security system including a processor (Fig. 7, 30), and the functions performed by the processor may be incorporated in computer software programmed to execute the algorithms employed as part of the detection, analysis, and classification processes (col. 11, lines 50-53).

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing a motion sensing system as taught by Mahoney to include Seeley's concept of the processor executing the program instructions for flexibility in programming, and to reduce manufacturing costs, thus minimizing costly hardware.

Regarding claim 11, Seeley discloses a central processing unit (Fig. 7, 28), a video input processing unit (Fig. 7, 30), a memory device (Fig. 7, 24 or 40), and a data bus (See bus line in Fig. 7) electronically coupled to the central processing unit, the video input processing unit, and the memory device.

Regarding claim 12, Seeley discloses a video display (Fig. 15, 602), and a key input device (604), wherein the video display and the key input device are electronically coupled to the processing unit (Fig. 1).

7. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mahoney (4,458,266) as applied to claim 1 above, and further in view of Seeley et al (6,069,655).

Regarding claim 2, Mahoney discloses that if the frame difference exceeds a predetermined threshold level and, if so, marking the map with a point (Fig. 3, 62) where an one or more image parameters of the first and second video image frame differ by more than the predetermined threshold (col. 1, lines 28-31);

comparing second video frame to a third video image frame (col. 2, lines 29-50, sequential comparison) to produce a second map with points (Fig. 3, 62) where the one or more image parameters differ by more than the predetermined threshold (col. 1, lines 28-31); and

comparing the first and second maps to detect movement of the object (col. 2, lines 42-50).

Mahoney does not specifically disclose comparing one or more image parameters of pixels in a first image frame and a second image frame, but rather compares scans with earlier corresponding scans to detect errors representing movement.

Seeley et al teaches an advanced video security system including comparing one or more image parameters of pixels in a first image frame and a second image frame (col. 4, lines 10-19) to detect an unwanted intrusions onto an area.

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing a method of detecting motion in a video surveillance system as taught by Mahoney to include Seeley's concept of comparing one or more image parameters of pixels in a first image frame and a second image frame, thereby creating a difference value of the one or more image parameters, as an alternative efficient way to detect unwanted intruders onto an area, and to avoid a false alarm such as screen savers on computers, hands of a clock, etc.

Regarding claim 3, Seeley discloses comparing an intensity value of the pixels (col. 4, lines 19-29).

Regarding claim 4, Mahoney discloses calculating a first/second location in the first/second map based on the points where image parameters differ by more than the predetermined threshold, and comparing the first/second locations (rectangle blocks of detection zones) to determine if the object is moving (col. 1, lines 55-64).

8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mahoney and Seeley et al as applied to claim 4 above, and further in view of Kramer (5,998,780).

Regarding claim 5, the combination of Mahoney and Seeley et al does not particularly disclose comparing the first and second location to determine a direction of movement of the object, comparing the determined direction of movement with a user defined direction, and generating a signal indication of movement of the object, if the user defined direction matches the determined direction of movement.

However, Kramer teaches comparing a first and second location to determine a direction of movement of an object, comparing the determined direction of movement with a user defined direction, and generating a signal indication of movement of the object, if the user defined direction matches the determined direction of movement (col. 4, lines 9-27).

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing a method of detecting motion in a video surveillance system as taught by Mahoney to include Kramer's concept of comparing a first and second location to determine a direction of movement of an object, comparing the determined direction of movement with a user defined direction, and generating a signal indication of movement of the object, if the user defined direction matches the determined direction of movement, thus detecting at least one dimensional motion as determined by an user as a most efficient way to properly and accurately identify a person either entering or exiting a security or surveillance zone.

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mahoney and Seeley et al as applied to claim 4 above, and further in view of Kramer (5,998,780) and Harradine et al (4,864,393).

Regarding claim 6, the combination of Mahoney and Seeley et al does not particularly disclose comparing the first and second location to determine a direction of movement of the object, determining a horizontal and a vertical component of the determined direction of movement, and generating a signal, if the horizontal and the vertical components match the user defined direction.

However, Kramer teaches comparing a first and second location to determine a direction of movement of an object, and generating a signal indication of movement of the object, if the user defined direction matches the determined direction of movement (col. 4, lines 9-27).

Further, Harradine et al teaches determining a horizontal and a vertical component of the determined direction of movement (col. 5, lines 63-68).

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing a method of detecting motion in a video surveillance system as taught by Mahoney to include Kramer's concept of comparing a first and a second location to determine a direction of movement of an object, generating a signal indication of movement of the object, if the user defined direction matches the determined direction of movement, and also include Harradine's concept of determining a horizontal and a vertical component of the determined direction of movement so that signal is generated, if the horizontal and the vertical component match the user defined direction, thus detecting at least one dimensional motion as determined by an user as a most efficient way to properly and accurately identify a person either entering or exiting a security or surveillance zone.

10. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mahoney (4,458,266) as applied to claim 1 above, and further in view of Seeley et al (6,069,655).

Regarding claim 9, Mahoney discloses that if the frame difference exceeds a threshold level and, if so, generating a map (Fig. 3, 62) of where the differences exceed the threshold, wherein the map comprises a plurality of active and non-active cells (col. 1, lines 28-31), and

determining if a number of adjacent cells is greater than a predetermined number, and if so, creating an object position value, wherein the determination of whether the position of the object is changing is made if the number of adjacent cells is greater than a predetermined number (col. 2, lines 42-50).

Mahoney does not specifically disclose determining differences in pixel intensities between sequential video image frames, although comparing pixel intensity (luminance or chrominance) between video frames is well known in the art.

Seeley et al teaches determining differences in pixel intensities between sequential video image frames (col. 4, lines 10-34).

Therefore, it would have been obvious to a person of ordinary skill in the relevant art employing a method of detecting motion in a video surveillance system as taught by Mahoney to include Seeley's concept of determining differences in pixel intensities between sequential video image frames, thereby creating a difference value as an alternative way to detect movement of an object, and to avoid a false alarm such as screen savers on computers, hands of a clock, etc.

Allowable Subject Matter

11. Claims 7-8 are objected to as being dependent upon a rejected base claim 1, but would be allowable: if either claim 7 or claim 8 is rewritten in independent form including all of the limitations of the base claim 1 and any intervening claims.

Dependent claims 7-8 recite the novel features wherein the user defined direction is horizontal/vertical, wherein the signal is generated if the horizontal component is greater or equal to the vertical component, or if the vertical component is greater or equal to the horizontal component.

Accordingly, if the amendments are made to the claims listed above, and if rejected claims are canceled, the application would be placed in condition for allowance.

Conclusion

12. The prior arts made of record and not relied upon are considered pertinent to Applicant's disclosure.
- A) Harman et al (4,249,207), Perimeter surveillance system.
 - B) Lee (5,291,020), Method and apparatus for detecting direction and speed using PIR sensor.
13. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to *Shawn S An* whose telephone number is 703-305-0099. The Examiner can normally be reached on Flex hours (10).
14. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.
15. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



SSA

Primary Patent Examiner

10/8/04